Final values (at t = 100)

|  |  |  |  |
| --- | --- | --- | --- |
| dt=0.1 | dt=1 | dt=5 | Analytical solution |
| 0.0431712 | 0.0265614 | 0.000954 | 0.0454 |

The accuracy is dependent on the size of the step because the slope, in the analytical solution, is constantly varying; while in the code the slope does not change until the step has ended; therefore the slope will deviate from the correct, analytic solution’s slope more as the step size increase, resulting in a bigger deviation from the correct value.